



# County of San Diego

## Department of Environmental Health

### Land and Water Quality Division

#### **GUIDANCE: OPERATIONS PLAN FOR SMALL DRINKING WATER SYSTEMS WITH CHLORINATION**

##### **For Small Drinking Water Systems With A Well, Storage Tank, Chlorinator, And Distribution System Operated By Owner Or Manager**

- Brief description of source, storage, chlorinator unit (treatment) and number of connections.  
Example; 200 foot well drilled in 1972, 1500 gallon welded steel storage tank, chlorinator with a diaphragm type pump (manufacturer and model) and 25 gallon disinfectant reservoir, serving 15 connections.
- Routine Operational Procedures for each component of the system:
  - A. Visual inspection of **WELL** (daily).
    - 1. Check for the following; leaks, openings, lubricants, electrical hazards, chemical hazards, etc. (record observations and correct problem).
    - 2. Check the pump for proper operation.
  - B. Visual inspection of the **STORAGE TANKS** (daily).
    - 1. Inspect for any leaks or damage (record observations and repair as needed).
    - 2. Record system pressure. Record the pressure the pump turns on, the pressure the pump turns off and the duration of the run time.
    - 3. Cleaning of storage tank (quarterly, semi-annually or annually). Record date cleaned and observations.
  - C. Visual inspection of **CHLORINATOR PUMP** and disinfection reservoir (daily).
    - 1. Inspect the pump for proper operation.
    - 2. Inspect the disinfectant in the reservoir for concentration and adequate volume for the operational period (record results).
    - 3. Determine if there is enough disinfectant on hand for one or more weeks.
  - D. Measure the **DISINFECTANT RESIDUAL** in the distribution system (free chlorine test kit required).
    - 1. Record the results (daily, on attached sheet).
    - 2. Determine if an adequate level of disinfectant is maintained.
      - a. If disinfectant level is low, determine the reason and correct.
      - b. If no measurable disinfectant, notify owner, determine reason, and remedy. If no disinfectant for 24 hours, notify Department.
  - E. Maintenance of **GAUGES and METERS**.
    - 1. Inspect all gauges and meters for leaks and proper function daily. Repair or replace as needed (keep record of date).
  - F. Inspection and **EXERCISING of the VALVES**.
    - 1. Inspect valves for leaks (record observations, repair or replace if leaking).
    - 2. Exercise valves on a schedule, as needed (i.e. quarterly, semi-annually, annually, record dates on attached sheet).

- G. Operation and maintenance of **DISTRIBUTION FACILITIES**.
  1. Visually inspect the distribution system for leaks on a regular basis. Record date and observations.
  2. Flush dead end mains or lines periodically (quarterly, semi-annually, annually as needed. Record date and observations).
- Monitoring and Reporting.
  - A. **BACTERIOLOGICAL MONITORING**; As per approved Sample Siting Plan (attached), required monthly, report to the Department by the 10<sup>th</sup> of each month, following the sample.
    1. If sample positive, notify Department and take four repeat samples.
    2. Take five routine samples the month following a positive sample.
  - B. **CHEMICAL MONITORING**; as required by the Department, forward results to the Department.
    1. Keep chemical results for ten years.
    2. Keep variance and exemptions for five years.
- Response to violations.
  - A. **PUBLIC NOTIFICATION** of violation required.
    1. Notification shall be given as per "Emergency public notification" method on record with the Department (attached), or in a manner directed by the Department.
    2. State problem and what has been done to correct it.
    3. Send a copy of the notification to the Department.
- Consumer complaint response procedures.
  - A. **CONSUMER COMPLAINT** procedures.
    1. Record in complaint log (name, address and nature of the problem).
    2. Investigate the complaint.
    3. Verify or dismiss the complaint.
    4. Record the steps taken to address or correct the problem.
    5. Notify complainant of action taken.
    6. Keep complaint records with corrective action for five years.
- **Emergency Operational Practices.** (*See Emergency/Disaster Plan for complete description*).
  - A. List of **equipment on hand** for emergency repairs.
    1. Miscellaneous wrenches.
    2. Leak clamps.
  - B. List of sources of needed **equipment, not on hand**.
    1. Name and address of supplier and type of equipment.
    2. If under contract or rental.

Name	Address	Phone #	Equipment	Rental/ Contract
			Steel Tank Welder	
			Electrical repair	
			Digging equipment	
			Generator	
			Chemicals	

- C. List of distributors or suppliers of **replacement parts** for the system.

1. Name and address of supplier and type of equipment.

Name	Address	Phone #	Equipment
			PVC pipe, valves, and fittings
			pumps, pressure tank and gauges
			Chlorinator

- D. List of **emergency contact numbers**:

	Name	Phone #
1.	Health Department or DHS District Office	
2.	Law Enforcement -	
3.	Electrician	
4.	Laboratory	
5.	Pump repair service	
6.	Chemical disinfectant supplier	
7.	Equipment supplier	
8.	Owner	